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Advance Data

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Utilization of Controlled Drugs in Office-Based Ambulatory Care: National Ambulatory Medical Care Survey, 1985

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Introduction

An increasingly important issue in current health care and social policy is the use of medications having significant potential for drug dependence or abuse and their possible diversion into illicit channels. Under Federal law, the Controlled Substances Act of 1970, special regulatory controls have been placed on the manufacture, distribution, and dispensing of these drugs. Each controlled drug is placed in one of five schedules, depending on its potential for abuse, its medical usefulness, and the degree of dependence it can produce.

Schedule I. The drug has a high potential for abuse and no current accepted medical usefulness for treatment in the United States. Examples are heroin and LSD. Schedule I drugs are outside the scope of this report.

Schedule II. The drug has a currently accepted medical use in the United States, but its abuse may lead to severe dependence. Included are certain narcotics (e.g., morphine), short-acting barbiturates, and certain stimulants, such as the amphetamines and cocaine. Prescriptions for these drugs are nonrefillable. Emergency telephone orders for limited quantities of these drugs are permitted, but the prescriber must provide a written, signed prescription to the pharmacy within 72 hours.

Schedule III. The drug has an accepted medical use in the United States, but its abuse may lead to moderate dependence. Included are opiates in fixed-ingredient combination with such other substances as acetaminophen or aspirin, and certain anorexiants. Prescriptions may be oral or written and may be refilled up to five times within 6 months after the date of issue, if authorized by the prescriber.

Schedule IV. The drug has a currently accepted medical use in the United States, but its abuse may lead to limited dependence. Included are the benzodiazepines (minor tranquilizers), phenobarbital, pentazocine, propoxyphene, and certain anorexiants. The same prescription requirements pertain as with Schedule III drugs.

Schedule V. The drug has a currently accepted medical use in the United States, but its abuse may lead to some dependence. The most important are fixed-ingredient combinations containing nonopioid drugs and limited quantities of opioids. There are no limitations on prescriptions or refills, other than those specified by the prescriber. Depending upon State and local regulation, some Schedule V products are available without a prescription.

This report describes the utilization of controlled drugs (Schedules II, III, IV, V) in office-based ambulatory care. The report relies on findings from the National Ambulatory Medical Care Survey (NAMCS), a sample survey of non-Federal office-based physicians conducted in the coterminous United States over the 12-month period March 1985 through February 1986.

The term *utilization* is limited to the prescribing or providing of a controlled drug by a doctor of medicine or osteopathy in the course of an office visit. It does not embrace ultimate patient compliance with the doctor's instruction.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control

National Center for Health Statistics
Manning Feinleib, M.D., Dr. P.H., Director

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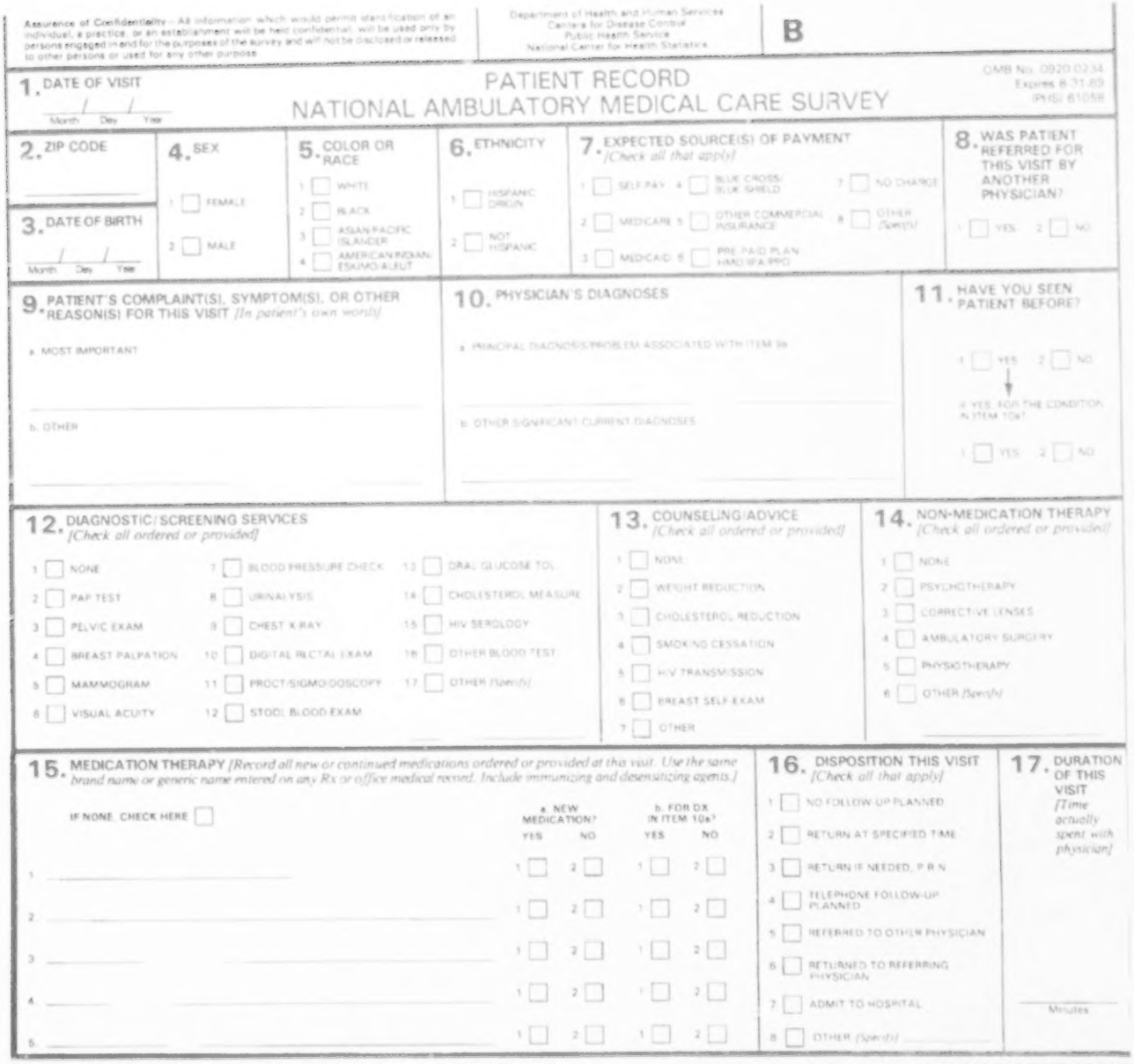
Because the estimates presented in this report are based on a sample rather than on the entire universe of office visits or drug mentions, the data are subject to sampling variability. The technical notes at the end of the report provide guidelines for judging the precision of the estimates. They also supply a brief description of the sample design and survey methodology and a copy of the chief data collection instrument, the patient record (figure 1).

General findings

From March 1985 through February 1986, 636.4 million office visits were made to physicians within the NAMCS scope, resulting in an estimated 693.4 million drug entries (mentions). This report centers attention on the estimated 47,192,000 office visits in which one or more controlled drugs were ordered or provided (controlled drug visits) and on the 51,877,000 mentions of controlled drugs that these visits produced. The controlled drug mentions were distributed among the schedules as shown in table 1.

NAMCS findings reveal that, between 1980 and 1985, there was a decrease of roughly 11 percent in the overall number of controlled drug mentions. The smaller groups, Schedules II and V, showed the greatest decreases; mentions in each fell off by about 30 percent. The use of Schedule IV drugs registered a modest decline (7 percent) over the period, in large part the result of a



Assurance of Confidentiality—All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purposes of the survey and will not be disclosed or released to other persons or used for any other purpose.

Department of Health and Human Services
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PATIENT RECORD
NATIONAL AMBULATORY MEDICAL CARE SURVEY

1. DATE OF VISIT — Month / Day / Year

2. ZIP CODE

3. DATE OF BIRTH — Month / Day / Year

4. SEX
1 FEMALE
2 MALE

5. COLOR OR RACE
1 WHITE
2 BLACK
3 ASIAN/PACIFIC ISLANDER
4 AMERICAN INDIAN/ESKIMO/ALEUT

6. ETHNICITY
1 HISPANIC ORIGIN
2 NOT HISPANIC

7. EXPECTED SOURCE(S) OF PAYMENT *[Check all that apply]*
1 SELF-PAY
2 MEDICARE
3 MEDICAID
4 BLUE CROSS/BLUE SHIELD
5 OTHER COMMERCIAL INSURANCE
6 PRE-PAID PLAN (HMO/IPA/PPO)
7 NO CHARGE
8 OTHER *(Specify)*

8. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN?
1 YES 2 NO

9. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT *[In patient's own words]*
a. MOST IMPORTANT
b. OTHER

10. PHYSICIAN'S DIAGNOSES
a. PRINCIPAL DIAGNOSIS/PROBLEM ASSOCIATED WITH ITEM 9a
b. OTHER SIGNIFICANT CURRENT DIAGNOSES

11. HAVE YOU SEEN PATIENT BEFORE?
1 YES 2 NO
IF YES, FOR THE CONDITION IN ITEM 10a?
1 YES 2 NO

12. DIAGNOSTIC/SCREENING SERVICES *[Check all ordered or provided]*
1 NONE
2 PAP TEST
3 PELVIC EXAM
4 BREAST PALPATION
5 MAMMOGRAM
6 VISUAL ACUITY
7 BLOOD PRESSURE CHECK
8 URINALYSIS
9 CHEST X-RAY
10 DIGITAL RECTAL EXAM
11 PROCT/SIGMOIDOSCOPY
12 STOOL BLOOD EXAM
13 ORAL GLUCOSE TOL
14 CHOLESTEROL MEASURE
15 HIV SEROLOGY
16 OTHER BLOOD TEST
17 OTHER *(Specify)*

13. COUNSELING/ADVICE *[Check all ordered or provided]*
1 NONE
2 WEIGHT REDUCTION
3 CHOLESTEROL REDUCTION
4 SMOKING CESSATION
5 HIV TRANSMISSION
6 BREAST SELF-EXAM
7 OTHER

14. NON-MEDICATION THERAPY *[Check all ordered or provided]*
1 NONE
2 PSYCHOTHERAPY
3 CORRECTIVE LENSES
4 AMBULATORY SURGERY
5 PHYSIOTHERAPY
6 OTHER *(Specify)*

15. MEDICATION THERAPY *[Record all new or continued medications ordered or provided at this visit. Use the same brand name or generic name entered on any Rx or office medical record. Include immunizing and desensitizing agents.]*
IF NONE, CHECK HERE
a. NEW MEDICATION? YES NO
b. FOR DX IN ITEM 10a? YES NO
1
2
3
4
5

16. DISPOSITION THIS VISIT *[Check all that apply]*
1 NO FOLLOW-UP PLANNED
2 RETURN AT SPECIFIED TIME
3 RETURN IF NEEDED, P.R.N.
4 TELEPHONE FOLLOW-UP PLANNED
5 REFERRED TO OTHER PHYSICIAN
6 RETURNED TO REFERRING PHYSICIAN
7 ADMIT TO HOSPITAL
8 OTHER *(Specify)*

17. DURATION OF THIS VISIT *[Time actually spent with physician]*
Minutes

* U.S. GOVERNMENT PRINTING OFFICE:1989-228-19

Figure 1. National Ambulatory Medical Care Survey Patient Record

decrease in the utilization of diazepam. Schedule III drugs were the only controlled drugs to hold their own—indeed, they showed a modest increase (5 percent) in utilization during the period.

Table 2 offers a ranked listing of the 20 controlled drugs most frequently prescribed by the office-based practitioner. This group of 20 accounted for about two-thirds of all controlled drug mentions. In table 3, the 51.9 million controlled mentions are classified by the therapeutic effect that each was intended to produce. It is noteworthy that narcotic analgesics dominate the drugs prescribed in schedules II and III; they accounted for an estimated 16.1 million mentions, a substantial 31 percent of all controlled drug mentions.

Another finding that merits attention is the dominance of the benzodiazepines (e.g., alprazolam, diazepam,and loraz pam) among the therapeutic family, anxiolytics, sedatives, and hypnotics, at the expense of other agents, chiefly barbiturates, which have more potential adverse effects, drug interactions, lethality, and abuse or dependence liability. With 18.1 million mentions, the benzodiazepines accounted for the largest sirgle proportion (35 percent) of all controlled drug mentions.

Symptoms and diagnoses associated with controlled drug therapy

The findings in table 2 and 3 indicate an application of controlled drugs in the management of pain, anxiety, cough, insomnia, and diarrhea. Table 4 shows the predominance of pain symptoms, which elicited more than one-half of the controlled drug mentions on the list.

Tables 5 and 6 describe the diagnostic correlates of controlled drug therapy, table 5 by listing the 15 principal diagnoses most frequently treated using controlled medications and table 6 by showing the volume of controlled drug mentions associated with each of the major diagnostic groups.

Table 1. Number and percent distribution of all drug mentions and of controlled drugs by control schedule: United States, 1985

Control status	Number of drug mentions in thousands	All drug mentions	Controlled drugs
		Percent distribution	
All drugs	593,355	100.0	
Controlled drugs	51,877	7.5	100.0
Schedule II drugs	4,070	0.6	7.8
Schedule III drugs	12,621	1.8	24.3
Schedule IV drugs	28,089	4.1	54.2
Schedule V drugs	7,097	1.0	13.7
Noncontrolled drugs	594,865	85.8	
Undetermined residual	46,613	6.7	

Table 2. Number, percent, and therapeutic use of the 20 most prescribed controlled drugs, by frequency of mention and control schedule: United States, 1985

Controlled drugs most frequently prescribed	Control schedule	Number of mentions in thousands	Percent	Therapeutic use
All controlled drug mentions		51,877	100.0	
Tylenol with codeine (acetaminophen, codeine)	III	5,081	9.8	Pain relief
Xanax (alprazolam)	IV	4,071	7.8	Anxiety relief
Valium (diazepam)	IV	3,672	7.1	Anxiety relief
Darvocet-N (propoxyphene acetaminophen)	IV	3,610	7.0	Pain relief
Ativan (lorazepam)	IV	2,306	4.4	Anxiety relief
Tranxene (clorazepate)	IV	1,698	3.3	Anxiety relief
Dalmane (flurazepam)	IV	1,478	2.8	Insomnia relief
Halcion (triazolam)	IV	1,271	2.5	Insomnia relief
Librium (chlordiazepoxide)	IV	1,215	2.3	Anxiety relief
Lomotil (diphenoxylate, atropine)	V	1,137	2.2	Antidiarrhea
Restoril (temazepam)	IV	1,103	2.1	Insomnia relief
Phenobarbital	IV	1,096	2.1	Anticonvulsant, insomnia relief
Phenergan expectorant with codeine (promethazine, codeine, phenylephrine)	V	1,062	2.0	Cough relief
Fiorinal (butalbital, caffeine, aspirin)	III	970	1.9	Migraine relief
Tussi-Organidin (codeine, iodinated glycerol)	V	965	1.9	Cough relief
Percocet-5 (oxycodone, acetaminophen)	II	772	1.5	Pain relief
Fastin (phentermine)	IV	737	1.4	Appetite suppressant
Percodan (oxycodone, aspirin)	II	672	1.3	Pain relief
Demerol (meperidine)	II	631	1.2	Pain relief
Hycomine (hydrocodone, phenylpropanolamine)	III	553	1.1	Cough relief

Table 3. Number and percent distribution of controlled drug mentions by therapeutic category, according to applicable control schedule: United States, 1985

Therapeutic category[1]	All mentions	Schedule II	Schedule III	Schedule IV	Schedule V
Number of mentions in thousands	51,877	4,070	12,621	28,089	7,097
		Percent distribution			
Total	100.0	100.0	100.0	100.0	100.0
Anxiolytics, sedatives, and hypnotics	39.0	*4.4	*1.4	70.7	–
Analgesics and antipyretics	35.0	72.5	73.7	20.1	*3.3
Antitussives, expectorants, and mucolytic agents	14.4	–	20.5	–	68.4
Respiratory and cerebral stimulants	5.6	15.9	*2.2	7.1	–
Gastrointestinal drugs	3.9	–	*0.7	–	27.3
Antidepressants	0.9	–	–	*1.7	–
Major tranquilizers and antimanic drugs	*0.5	*7.2	–	–	–
Other categories and unknown	*0.7	–	*1.5	*0.4	*1.0

[1] Based on American Hospital Formulary Service Classification System, American Society of Hospital Pharmacists, Inc., Bethesda, MD, 1985.

Table 4. Number and percent of the 20 symptoms most frequently associated with controlled drug mentions, by frequency of controlled drug mention: United States, 1985

Symptoms most frequently associated with controlled drug mentions[1]	Controlled drug mentions	
	Number in thousands	Percent
All controlled drug mentions	51,877	100.0
Cough	3,651	7.0
Headache	2,630	5.1
Upper back symptoms[2]	2,512	4.8
Anxiety and nervousness	1,955	3.8
Depression	1,511	2.9
Low back symptoms[2]	1,450	2.8
Chest pain (not referable to body system)	1,370	2.6
Head cold, upper respiratory infection	1,215	2.3
Sore throat	1,033	2.0
Abdominal pain, cramps, spasms	1,026	2.0
Diarrhea	963	1.9
Neck symptoms[2]	888	1.7
Disturbances of sleep	777	1.5
Weight gain	736	1.4
Leg symptoms[2]	641	1.2
Knee symptoms[2]	637	1.2
Shoulder symptoms[2]	632	1.2
Vertigo	582	1.1
Tiredness, exhaustion	515	1.0
Pain, site not referable to a specific body system	*483	*0.9

[1]Based on "A Reason for Visit Classification for Ambulatory Care," Vital and Health Statistics, Series 2, No.78, 1979.
[2]Chiefly pain, ache, or soreness.

Table 5. Number and percent of controlled drug mentions for the 15 principal diagnoses most frequently associated with controlled drug mentions, by frequency of mention: United States, 1985

Principal diagnoses most frequently associated with controlled drug mentions	ICD-9-CM[1]	Controlled drug mentions[2]	
		Number in thousands	Percent
All principal diagnoses	–	40,914	100.0
Neurotic disorders	300	3,387	8.3
Acute upper respiratory infections	465	1,753	4.3
Obesity and other hyperalimentation	278	1,526	3.7
Bronchitis, not specified as acute or chronic	490	1,487	3.6
Other and unspecified disorders of back	724	1,278	3.1
Other noninfectious gastroenteritis and colitis	558	1,256	3.1
Affective psychoses	296	1,117	2.7
Essential hypertension	401	957	2.4
Sprains and strains of other and unspecified parts of back	847	941	2.3
General symptoms[3]	780	821	2.0
Intervertebral disc disorders	722	780	1.9
Migraine	346	763	1.9
Acute bronchitis and bronchiolitis	466	724	1.8
Acute pharyngitis	462	611	1.5
Special symptoms or syndromes, not elsewhere classified[4]	307	594	1.5

[1]International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM).
[2]Includes only those drug mentions that were specifically intended for a principal (first-listed) diagnosis. Drug mentions associated with other-listed diagnoses or utilized for any other reason are not included.
[3]Includes convulsions not otherwise specified, malaise and fatigue, dizziness, sleep disturbances, pyrexia of unknown origin, syncope, and collapse.
[4]Chiefly psychogenic pain.

Some points require clarification or emphasis:

- The controlled drugs used in the treatment of obesity were not the Schedule II amphetamines, but rather the Schedule IV stimulants phentermine and diethylproprion.
- Seven diagnostic groups are seen to be above average in the proportion of their overall drug utilization that resulted from the use of a controlled drug. In rank order, these are:
  - —Mental disorders.
  - —Injury and poisoning.
  - —Symptoms, signs, and ill-defined conditions.
  - —Diseases of the musculoskeletal system and connective tissue.
  - —Diseases of the digestive system.
  - —Neoplasms.
  - —Endocrine, nutritional, and metabolic diseases and immunity disorders.

Patient characteristics

Viewed as a proportion of all drug therapy within a given age group, the utilization of controlled substances increases with age until it reaches its maximum proportion in the age group 25–44 years (table 7). It then begins a decline among patients in the remaining years of life.

Median patient age is seen to vary according to the controlled schedule utilized, as follows:

Schedule	Median patient age in years
All controlled mentions	45.2
Schedule II drugs	44.0
Schedule III drugs	39.6
Schedule IV drugs	50.8
Schedule V drugs	31.0

In absolute numbers, controlled drug mentions for female patients outnumbered those for males by a substantial 15 million (table 7). In terms of relative utilization, however, the 1-percent difference that favored all female patients was not statistically significant.

Data on racial and ethnic patient groups did not vary strongly enough from the overall norms of controlled drug therapy to warrant comment (table 8).

Physician characteristics

Table 9 examines the utilization of controlled drugs in terms of the physicians who prescribe them. The following findings merit attention:

- Osteopathic physicians somewhat exceeded doctors of medicine in their proportionate prescribing of controlled drugs. This is due in part to their relatively greater concern with musculoskeletal pain and thus with the opiate analgesics in Schedule III, but chiefly to their more intensive prescribing of the drugs in Schedule V.
- In terms of absolute numbers of controlled drug mentions, it is noteworthy that primary care physicians accounted for about

two-thirds of the total 51.9 million, with general or family physicians alone accounting for 43 percent.

- In relative terms, however—that is, when the 13 most-visited specialties are examined in terms of their proportionate use of controlled drug therapy—five specialties were found to exceed average utilization. In rank order of intensity of use, these were:

  1. Psychiatry
  2. Orthopedic surgery
  3. Neurology
  4. General surgery
  5. General or family practice

Between the 1980 and the 1985 NAMCS, three specialties demonstrated the largest variations in their proportionate use of the controlled drugs. These were psychiatry, with an increase from 24 percent in 1980 to 31 percent in 1985; neurology, with an increase from 15 percent in 1980 to 20 percent in 1985; and general surgery, with a decrease from 16 percent in 1980 to 9 percent in 1985.

Other aspects of controlled drug therapy

Are physicians more cautious in prescribing a controlled drug for a new patient than for a patient whom they already know? The differences in relative utilization presented in table 10 are not large enough to answer this question conclusively.

Table 11 examines the extent to which nondrug treatment techniques were used concomitantly with controlled drug therapy. In a clear majority (68 percent) of visits involving the utilization of a controlled drug (controlled drug visits), no nondrug therapy is seen to have been ordered or provided. The most frequent nonpharmacologic treatment in concomitant use was psychotherapy; its use in controlled drug visits was three times as great as its use in all visits.

Table 6. Number of all drug mentions and number and percent of controlled drug mentions, by major diagnostic group: United States, 1985

Major diagnostic group	ICD-9-CM code[1]	All drugs mentions in thousands	Controlled drug mentions	
			Number in thousands	Percent of all drug mentions
All principal diagnoses		[2]534,627	[2]40,914	7.7
Infectious and parasitic diseases	001–139	22,051	1,046	4.7
Neoplasms	140–239	9,717	988	10.2
Endocrine, nutritional and metabolic diseases and immunity disorders	240–279	21,901	1,957	8.9
Mental disorders	290–319	20,835	7,301	35.0
Diseases of nervous system and sense organs	320–389	52,995	2,435	4.6
Diseases of circulatory system	390–459	85,552	2,228	2.6
Diseases of respiratory system	460–519	106,836	7,395	6.9
Diseases of digestive system	520–579	21,700	2,574	11.9
Diseases of genitourinary system	580–629	26,932	953	3.5
Diseases of skin and subcutaneous tissue	680–709	38,048	623	1.6
Diseases of musculoskeletal system	710–739	38,943	5,050	13.0
Symptoms, signs, and ill-defined conditions	780–799	16,066	2,353	14.6
Injury and poisoning	800–999	27,883	4,149	14.9
Diagnosis other or unknown		45,158	1,862	4.1

[1]International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM).
[2]Includes only those drug mentions that were specifically intended for a principal (first-listed) diagnosis. Drug mentions associated with other listed diagnoses or utilized for any other reason are not included.

Table 7. Number of all drug mentions and number and percent of controlled drug mentions, by patient age and sex: United States, 1985

Age and sex	All drug mentions in thousands	Controlled drug mentions	
		Number in thousands	Percent of all drug mentions
All office patients	693,355	51,877	7.5
Age			
Under 15 years	107,018	3,912	3.7
15–24 years	60,288	3,809	6.3
25–44 years	156,234	17,392	11.2
45–64 years	171,234	14,758	8.6
65 years and over	198,582	12,006	6.0
Sex			
Female	426,653	33,586	7.9
Male	266,702	18,291	6.9
Sex-age groups			
Female:			
Under 15 years	53,107	1,727	3.3
15–24 years	40,255	2,593	6.4
25–44 years	107,079	11,464	10.7
45–64 years	103,173	9,668	9.4
65 years and over	123,040	8,135	6.6
Male:			
Under 15 years	53,911	2,185	4.1
15–24 years	20,034	1,216	6.1
25–44 years	49,155	5,928	12.1
45–64 years	68,061	5,090	7.5
65 years and over	75,542	3,872	5.1

With its data on disposition instructions at the end of the office visit, table 12 supplies some final insights into the nature of office-based prescribing of controlled drugs. Possibly reflecting a desire to maintain closer-than-usual surveillance of a group of drugs that have their own unique hazards of use, the utilization of some form of followup is seen to be the rule, somewhat exceeding the followup norms found in overall office practice.

Table 8. Number of all drug mentions and number and percent of controlled drug mentions, by patient race and ethnicity: United States, 1985

Race and ethnicity	All drug mentions in thousands	Controlled drug mentions	
		Number in thousands	Percent of all drug mentions
All patients	693,355	51,877	7.5
Race			
White	614,585	46,263	7.5
Black	66,394	4,530	6.8
Other[1]	12,376	1,085	8.8
Ethnicity			
Hispanic	43,325	4,114	9.5
Non-Hispanic	650,030	47,764	7.3

[1]Asian, Pacific Islander, American Indian, or Alaskan native.

Table 9. Number of all drug mentions and number and percent of controlled drug mentions, by prescriber characteristic: United States, 1985

Prescriber characteristic	All drug mentions in thousands	Controlled drug mentions	
		Number in thousands	Percent of all drug mentions
All prescribers	693,355	51,877	7.5
Professional identity			
Doctor of Medicine	650,353	47,686	7.3
Doctor of Osteopathy	43,002	4,191	9.7
Selected specialties			
General or family practice[1]	250,119	22,513	9.0
Internal medicine[1]	126,219	8,642	6.8
Pediatrics[1]	68,856	2,551	3.7
Obstetrics and gynecology[1]	33,832	1,259	3.7
Dermatology	29,253	*106	*0.3
Cardiovascular disease	26,812	1,077	4.0
Ophthalmology	25,820	*175	*0.6
General surgery	18,774	1,689	9.0
Psychiatry	14,826	4,566	30.8
Orthopedic surgery	12,080	3,068	25.4
Otolaryngology	10,761	565	5.3
Urological surgery	6,737	*330	*4.9
Neurology	4,664	935	20.0

[1]Primary care specialty.

Table 10. Number of all office visits and number and percent of controlled drug visits, by patient prior visits status: United States, 1985

Prior visit status	All office visits in thousands	Controlled drug visits[1]	
		Number in thousands	Percent of all office visits
All patients	636,386	47,193	7.4
New patient	107,624	6,911	6.4
Old patient	528,762	40,282	7.6
New problem	144,634	11,490	7.9
Old problem	384,128	28,792	7.5

[1]Controlled drug visit: A visit at which one or more controlled drugs was prescribed.

Table 11. Number and percent of all visits and of controlled drug visits, by selected nonmedication therapy: United States, 1985

Nonmedication therapy	All visits	Controlled drug visits[1]
Number in thousands	636,386	47,192
	Percent	
None	68.9	62.8
Physiotherapy	4.2	5.8
Ambulatory surgery	6.6	4.0
Psychotherapy	3.4	10.6
Diet counseling	6.5	8.2
Other counseling	9.3	11.0

[1]Controlled drug visit: A visit at which one or more controlled drugs was prescribed.

Table 12. Number and percent of all visits and of controlled drug visits, by selected forms of disposition: United States, 1985

Disposition	All visits	Controlled drug visits[1]
Number in thousands	636,386	47,192
	Percent	
No followup planned	9.8	5.5
Return at specified time	61.5	62.7
Return if needed	22.9	26.3
Telephone followup	4.0	4.6
Referred to another physician	3.3	3.0
Admit to hospital	1.6	1.3

[1]Controlled drug visit: A visit at which one or more controlled drugs was prescribed.

Symbols

- - - Data not available
. . . Category not applicable
- Quantity zero
0.0 Quantity more than zero but less than 0.05
Z Quantity more than zero but less than 500 where numbers are rounded to thousands
* Figure does not meet standards of reliability or precision
# Figure suppressed to comply with confidentiality

Technical notes

Source of data and sample design

The information presented in this report is based on data collected by means of the National Ambulatory Medical Care Survey (NAMCS) from March 1985 through February 1986. The target universe of the NAMCS consists of office visits made by ambulatory patients to non-Federal physicians who are principally engaged in office practice within the coterminous United States. The specialties of anesthesiology, pathology, and radiology are excluded from the survey scope, as are any telephone contacts with patients or nonoffice visits.

The NAMCS utilizes a multistage probability sample design that involves a sample of primary sampling units and patient visits within physicians' practices. Physician specialty was used as a stratification variable. For 1985, a sample of 5,032 non-Federal, office-based physicians was selected from master files maintained by the American Medical Association and the American Osteopathic Association. For the 4,104 physicians who proved to be in scope, the response rate was 70 percent. Sampled physicians were asked to complete patient records (figure 1) for a systematic random sample of office visits taking place during a randomly assigned 1-week reporting period. Responding physicians completed a total of 71,594 patient records; they recorded 71,182 drug mentions in item 14, medication therapy, of which 5,692 were the mentions of controlled drugs that provided a base for most of the estimates in this report. Characteristics of the physician's practice, such as primary specialty, were obtained during an induction interview.

Reliability of estimates

The standard error (SE) is primarily a measure of sampling variability that occurs by chance because only a sample rather than the entire universe of office visits or drug mentions is surveyed. The chances are about 68 in 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 in 100 that the difference would be less than twice the standard error, and about 99 in 100 that it would be less than 2½ times as large.

The relative standard error (RSE) is that percentage of the estimate represented by the standard error. In this report, an asterisk (*) precedes any estimate with more than a 30-percent relative standard error.

Relative standard errors for visit numbers may be calculated using the following formula, where x is the visit number in thousands.

$$\text{RSE}(x) = \sqrt{0.001493373 + \frac{28.258848}{x}} \cdot 100$$

$$\text{SE}(x) = \text{RSE}(x) \cdot x$$

For example, the RSE of the estimated 47,192,000 controlled drug visits (visits in which one or more controlled drugs were utilized) equals 4.6 percent. The SE therefore equals 2,171,000 visits.

Relative standard errors for numbers of drug mentions may be calculated using the following formula, where x is the number of drug mentions in thousands:

$$\text{RSE}(x) = \sqrt{0.001884167 + \frac{46.903471}{x}} \cdot 100$$

$$\text{SE}(x) = \text{RSE}(x) \cdot x$$

For example, the RSE of the estimated 51,877,000 controlled drug mentions equals 5.3 percent. The SE therefore equals 2,750,000 mentions.

Relative standard errors (in percent) for estimates of percents may be calculated using the following formulas, where p is the percent of interest and x is the denominator of the percent in thousands.

I. For percents of visit numbers,

$$\text{RSE}(p) = \frac{\sqrt{28.258848 \cdot (1 - p)} \cdot 100}{p \cdot x}$$

$$\text{SE}(p) = \text{RSE}(p) \cdot p$$

For example, psychotherapy was utilized in an estimated 10.6 percent of the 47,192,000 controlled drug visits. The RSE of this 10.6 percent equals 7.1 percent. The SE therefore equals 0.8 percent.

II. For percents of drug mentions,

$$\text{RSE}(p) = \frac{\sqrt{46.903471 \cdot (1 - p)} \cdot 100}{p \cdot x}$$

$$\text{SE}(p) = \text{RSE}(p) \cdot p$$

For example, controlled drug mentions accounted for an estimated 7.5 percent of all the 693,355,000 drug mentions in the 1985 NAMCS. The RSE of this 7.5 percent equals 2.9 percent. The SE therefore equals 0.2 percent.

Tests of significance and rounding

In this report, the determination of statistical significance is based on a two-sided t-test with a critical value of 1.96 (0.05 level of confidence). Terms relating to difference, such as "greater than" or "less than," indicate that the difference is statistically significant. In the tables, estimates of office visits and drug mentions have been rounded to the nearest thousand. Consequently, estimates will not always add to totals.

Definitions of terms

A *visit* is a direct personal exchange between an ambulatory patient seeking health care and a physician or staff member working under the physician who provides that care.

A *drug mention* is the physician's entry of a pharmaceutical agent prescribed or provided—by any route of administration—for prevention, diagnosis, or treatment. Generic names as well as brand names are included, as are nonprescription as well as prescription drugs. Along with all new drugs, the physician also records any continued medication if the patient was specifically instructed during the visit to continue medication.

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